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## CAMPHOR

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THE GUM CAMPHOR of modern commerce is not the same product as the camphor which was one of the costliest items of earlier sea-trade, worth more than its weight in gold, and so scarce that it was hardly to be found outside of royal treasure houses. Modern camphor is obtained by passing steam over the leaves, wood and bark of the tree laurel (*Laurus camphora*) of Southern China and Formosa. It is also prepared synthetically from coal-tar. Its uses are prosaic and utilitarian. The original camphor was a natural accumulation in the light and fibrous wood of the camphor tree of Sumatra and Borneo (*Dryobalanops camphora*), a vegetable giant, until the discovery of the sequoia of California, probably the mightiest tree known in the world.<sup>1</sup> It was regarded by Sumatran man as an earthly copy of the heavenly Tree of Fate. Mula Gadi the father-god dwelt by that tree with his two wives, the Writer and the Weigher. Under the tree every earth-bound soul must pass, to receive one of its leaves, whereon was a writing of that soul's earthly destiny—riches or poverty, power or weakness, sickness or health.<sup>2</sup> And although camphor crystals are in fact the product of a natural process resembling gout or arteriosclerosis, they were supposed to be the very life and essence of the heavenly tree, the possessor of which had power to unravel "the Master-knot of human fate."

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<sup>1</sup> Engler and Prantl, *Natürliche Pflanzenfamilien*, III. 6. 254—259. Cf. Yule's note to Marco Polo III, xi, on the Kingdoms of Lambri and Fansur; Cordier's edition, 2. 300—4.

<sup>2</sup> Warneck, *Die Religion der Batak*, 4—5; 49, 115, 125.

This heavenly tree figures most largely in the belief of the Bataks, a tribe of the hill country of northern Sumatra. Of this people much has been written<sup>3</sup>—of their primitive animism, which anthropologists accept as typical; of their cannibal ceremonies and head-hunting which loom large among the “Marvels of the East” of the Arab writers. The magic tree of the island of Wāk-wāk, bearing as fruit human heads which shout in chorus, is frequently described in Arabic literature.<sup>4</sup> Such legends usually have a foundation in fact. This one may be an echo of the Batak custom of hanging up on a pole or tree before the house door the skull of a slain enemy filled with camphor, which they consult upon questions of daily life. The taker of the head is supposed to possess the soul which the camphor enables him to keep alive and control.

But it is with the burial ceremonies of the Bataks that we are now concerned. The burial of the poor takes place without ceremony soon after death, but when the local chief dies, there is much ceremony, and when the great chief dies, a messenger goes forth with the jawbone of a buffalo, and all the local chiefs come to the funeral with live buffaloes which are slaughtered together. A catafalque is built upon which rests a coffin of heavy *durio* wood. Within the coffin is the body clothed with full regalia and covered flush with camphor crystals. There it lies for many months, at the end of which it is uncovered for a last look at the sun, and then lowered into the grave. The horns and jawbones of the slaughtered buffaloes are hung up on a wooden framework before the grave.<sup>5</sup> Similar customs are noted among head-hunting tribes of Bali, Borneo and the Philippines.

Camphor was used, then, at the burial of kings and potentates that they might have the spirit gift of power in the next world, and something of the life of Mula Gadi the father-god.

<sup>3</sup> Kruijt, *Animism in the Indian Archipelago*; Warneck, *Ancestor and Spirit Worship*; Low, “An Account of the Batta Race in Sumatra”, *JRAS* 2. 43 ff.

<sup>4</sup> E. g. Al-Makdisi, cf. Ferrand, *Textes Arabes relatifs à l'Extrême-Orient*, 117; Kazwinī, Ferrand 300; Ibn Saʿīd, Ferrand 334; Dimašqī, Ferrand 375; Digest of Marvels, Ferrand 157.

<sup>5</sup> Breuner, *Besuch bei den Kannibalen Sumatras*; Junghuhn, *Die Batta-länder Sumatras*, 296.

Chemically, of course, camphor is contained in many volatile oils, from which it can be separated. It is a solid residue in the oil similar to the tallow in animal fats. Some chemists would prefer to use for it the word stearoptene, literally, "like tallow." Menthol is a camphor obtained from the oil of peppermint; thymol from the oil of thyme; and many other oils will yield a similar residue, the oil of camphor in far the greatest volume.<sup>6</sup> But the distillation of volatile oils is a comparatively recent process. The "fragrant ointments" and "anointing oils" of antiquity were neutral oils like olive and sesame, or animal fats, flavored or scented by steeping with flowers, gum, bark, leaves, grasses or chips of wood. Mohammedan Arabs and Persians were probably the first to work out the distillation of volatile oils, and the separation of the camphors was not studied in Europe before the 17<sup>th</sup> century. Royalty before that time had to be content with the scanty supply of crystals from the Indian Archipelago, or the imitation which the crafty Chinese learned how to produce by boiling in open kettles the wood of their own tree laurel, or certain fragrant herbaceous plants,<sup>7</sup> catching the solid residue by stretching straws or wool across the top of the kettle.<sup>8</sup> The Chinese still counterfeit the Sumatra camphor and sell it at large gain to trusting Sumatrans,

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<sup>6</sup> Gildemeister, *Volatile Oils*, 370; cf. Herodotus 2, 85; Dioscorides I; Pliny XV—XVI; Theophrastus IX.

<sup>7</sup> *Blumea balsamifera* is the plant used by the Chinese for this imitation camphor, which they call *ngai* (cf. Flückiger and Hanbury, *Pharmacographia*, 518—519). The market price of the Sumatra camphor is about ten times that of the *ngai* camphor, and fifty times that of the tree-laurel camphor. In the South of France and other Mediterranean lands another herbaceous plant, *Camphorosma monspeliaca*, is used. (Cf. Baillon, *Dict. de Botanique sub verbo*). Ibn al Baiṭar mentions a "Jewish camphor" which was a herbaceous plant of Khorassan, probably the *Camphorosma* (Ferrand 274—5). For Chinese counterfeiting, cf. Abū'l Fazl, Ferrand 544—5. So also I am informed by C. O. Spamer, American Consul at Medan, Sumatra, who has kindly supplied me specimens of the true *Dryobalanops* camphor and camphor oil, and of the counterfeit Chinese production. Some of the writers confuse camphor with aloë. Ibn Serapion and Ibn al Baiṭar (Ferrand 112, 289) say that in its natural state it is bright red, and becomes white through sublimation. Abū'l Fazl (Ferrand 544) corrects this statement, saying that he himself has taken it white from the tree.

<sup>8</sup> Gildemeister, *op. cit.* and references.

and to a much larger market in India. To the rest of the world it was introduced, probably, by seafaring Arabs who knew how to make the most of its alleged virtues in assuring the immortality of kings, and who studied its more immediate uses in medicine and ointments, and in the preparation of cooling drinks in palaces and homes of wealth. The supply was limited. The tree grows only on the lower hills near the coast and is found here and there in the forests, never thickly. Not every tree yields camphor. Many are felled and cut up to no purpose.<sup>9</sup> The most generous yield may be 10 to 15 pounds of crystals to be had from a tree perhaps 200 feet high and 15 feet in diameter. The natives believe that the yield is greater in times of supernatural activity, exemplified by earthquakes and volcanic eruptions,<sup>10</sup> and that it is increased by the sacrifice of rice, buffaloes or men before the tree. Human sacrifice is supposed to result in a larger find of crystals, so that the Bataks are not to be blamed for setting a high price upon it. Gathering is done by the tribe at seasons advised by their *datu* or priest as propitious, and the tree is selected with similar precautions. A space is cleared for sacrifice. The camphor spirit is summoned by flute-playing and appears to the tribe in dreams, pointing out the tree. On no account is the object of the expedition to be named, lest the ubiquitous *begu* or malignant spirit cause the crystals to disappear into the wood. An artificial language is spoken. It is forbidden to pronounce the names of tree or crystal, which are utterly taboo.<sup>11</sup> The tapper of the tree, when selected by the *datu*, climbs well up the trunk, fastens a jar and pierces the bark, from which the sap is allowed to flow. Face and hands are carefully protected, for a drop touching the skin, being the flowing blood of divinity, would blast a mere mortal.<sup>12</sup> The tree is then tapped lower down, and a whitish gum sometimes appears. Still lower a pocket may be found in the trunk filled with the precious crystals. If the prospect seems favorable, the tree is felled and the tribe sets to work with primitive tools to dissect it, being careful

<sup>9</sup> Breuner, *op. cit.* 354.

<sup>10</sup> Mas'ûdi, Ferrand 97—8; Abū'l Fazl, cf. Ferrand 544.

<sup>11</sup> Frazer, *Taboo and the Perils of the Soul*, 405—7; 36; 45—6; 65; 116; Warneck, *op. cit.*, 20; Breuner, 354.

<sup>12</sup> Dimaški; cf. Ferrand, 368—9.

first to shroud the top to prevent the spirit from escaping. That it can escape, let the doubter prove by exposing a crystal to the rays of the sun. The vanishing of the white solid into invisible vapor is thus explained. To prevent this the crystals must be preserved in jars of a certain form, mixed with certain grains or seed, and wrapped securely from the warmth of the body.<sup>13</sup> The vanishing of the camphor, so Dr. Abbott tells me, gives a very definite illustration in modern Indian ceremonial of the disappearance of the human soul from the earth.

The present question is how and when camphor became an article of regular commerce, and whence the word is derived. To the Greeks and Romans it was unknown. No description of it can be found in Theophrastus, Dioscorides or Pliny. It appears in the writings of Symeon Seth, Aetius, Paulus Aegineta and Leo Medicus, Hellenistic medical writers of the 4<sup>th</sup> to 6<sup>th</sup> centuries of our era, and a remark of Aetius in one of his prescriptions: "if you have a supply of camphor," indicates the difficulty with which it was obtained. It appears also in the Syrian Book of Medicine recently published by Budge. This is a work of uncertain date, embodying medical data collected at Alexandria and elsewhere, and may be ascribed to the Greek medical school at Edessa, which is known to have been fostered by the Sassanian kings between the 3<sup>rd</sup> and 5<sup>th</sup> centuries of our era. It appears also in the Āyur-Veda of Suśruta, a Sanskrit medical work, which Professor Edgerton tells me is believed to be at least as old as the fourth century A. D., although it is thought to contain, also, interpolations from a later time. In the Syriac the form of the word is *kāpūr*; in the Greek two forms appear, *kaphoura* and *kamphora*; in Sanskrit *karpūra*, but in all Indian vernaculars *kāpūr* or *kāppūr*.

The ceremonial use of camphor must have become general in Sassanian times. Dr. Yohannan tells me that Shiite Muslims in Persia to this day rub camphor into the nostrils of the dead to drive away evil spirits and to assist in the resurrection. An Arab prince, Imru-l-Qais, writing before the time of Mohammed, mentions camphor, and Weil, in his History of the Caliphs, relates that when the Arabs pillaged the palace

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<sup>13</sup> Abū'l Fadl Ja'far; Ferrand, *op. cit.*, 604; Ibn Khordādhbeh, De Goeje's ed., p. 45.

of the last Sassanian Khusrau in 636 A. D., they took musk, amber, sandalwood and other Eastern aromatics, and "much camphor".<sup>14</sup>

The earliest literary reference of the first rank is in the Koran. In such passages as Sura 37 it is explained how the unrighteous when they reach hell are given boiling water to drink. By contrast Sura 76 tells of the joys of Paradise, where the righteous receive at the hands of the black-eyed maidens cooling drinks, camphor from "a fountain from which the servants of Allah shall drink," and ginger from "a fountain which is named Salsabil" (the softly-flowing). Camphor and ginger are both refrigerants widely used as ingredients in cooling drinks in both tropical and temperate lands; camphor in India especially, where it is often so alluded to in Sanskrit literature. While one's first inclination is to regard them in these passages of the Koran as material delights of the blest in contradistinction to the torments of the damned, some Muslims interpret them as symbolic of the ascent of the soul toward perfection. In Maulvi Mohammed Ali's version of the Koran, it is explained that *kāfūr*, the Arabic form of the word, is from a stem *kfr*, meaning to cover, or hide, and so means "suppression," the extinction of worldly desires on the part of those who have drunk of the cup of Allah; and *zanjbil*, the word for ginger, is derived from *zana'a* and *jabal*, and means "ascent of the mountain"—that is, the steep and difficult heights to attain which spiritual strength must be gained.<sup>15</sup> This etymology is not here defended.

Mohammed himself was very fond of perfumes, and an early tradition quotes Ayesha as saying that he indulged in "men's scents", musk and ambergris, and that he burned camphor on fragrant wood and enjoyed the pleasant odor. Anas, his servant, said, "We always knew when Mohammed had come out of his chamber by the sweet perfume that filled the air."<sup>16</sup>

<sup>14</sup> *Geschichte der Chalifen*, 75. Cosmas Indicopleustes, who visited Ceylon in the 6<sup>th</sup> century and wrote at length of its trade, makes no mention of camphor.

<sup>15</sup> The Holy Qur'ān with English Translation and Commentary, London, *Islamic Review*, 1917, p. 1143, note 2626.

<sup>16</sup> Muir, *Life of Mohammad*, 330—1.

This high authority was sufficient to fix the form *kāfūr* throughout the world of Islam, and in such estimation is the word held that, so Dr. Sprengling informs me, among dark-skinned African Muslims to this day *Kāfūr* is a favorite given name.

The commercial interest of the Arabs in camphor is shown in the second voyage of Sindbad the Sailor to the island of Riha, which may be identified with Sumatra, in which a clear account is given of the tree and the search for its crystals.<sup>17</sup>

In the 89<sup>th</sup> Sura of the Koran is a reference to Iram Dāt Al-'Imād (Iram with the Pillars), supposed by some Muslim writers to have been a town built in the highlands of Yemen as an imitation of Paradise. Its stones were gold and silver, and its walls studded with jewels. Mas'udi relates with some reserve a story about a certain camel-driver who chanced upon the buried town, from the ruins of which he brought musk, camphor and pearls to the Caliph Mu'awiya.<sup>18</sup> The name is South Arabian, and it appears also in Hamdani; but the idea of an apocalyptic Heavenly City was very general in Semitic lands.

Arabian writers about voyages to the East speak of a similar white city, al-Barraqa, the brilliant, built of shining white stone with white domes, in which cries and songs were heard, but no inhabitants seen.<sup>19</sup> Sailors landed there to take water and found it clear and sweet with an odor of camphor, but the houses receded as fast as approached, and finally faded from view.<sup>20</sup>

There were certain affinities in the word *kāfūr* which no doubt appealed to the Arabic mind. The stem is the same in form and meaning as our word "cover". It suggests Hebrew *kopher*, bitumen or pitch, with which Noah's Ark and Moses'

<sup>17</sup> *Thousand and One Nights*, Payne edition, V, 167—8.

<sup>18</sup> *Encyclopaedia of Islam*, No. 26, pp. 519—520.

<sup>19</sup> The word *barraqa* is the same as *baregeth*, one of the stones of the high priest's breast-plate in Exod. 30, said by Talmudic writers to have been caught up into heaven by an angel when the Babylonians destroyed the Temple at Jerusalem; and this is the same as *smaragdus*, one of the foundations of the Heavenly City of the Apocalypse (Rev. 18). In terms of gem-stones this was the rock-crystal rather than the beryl. Both are hexahedral and appear in many hues.

<sup>20</sup> *Digest of Marvels*; Ferrand, op. cit. 145.



ark of bulrushes are said to have been covered, and also a whole series of ideas connected with atonement, offerings, and sacrifice. *Yom Kippur*, the Day of Atonement, is from the same stem; also *kapporeth*, the mercy seat above the Ark of the Covenant. The same word *kopher* means henna,<sup>21</sup> from the original meaning to cover over or smear, thence to hide or conceal, or even to suppress—all these meanings naturally follow.<sup>22</sup> Closely related is Arabic *qubūr*, "grave". But the form *kāfūr* is irregular in Arabic and suggests a foreign origin or influence, even though the Arabs apply the same word to the covered spathe of their own date-palm. India lies half-way between Arabia and Sumatra, and we might infer some borrowing from Indic vernaculars; but this would not help us much, for Professor Jackson and Professor Edgerton seem to think that the Indic and Persian words have no indigenous flavor. Dr. Laufer has traced the forms of the word from India through Tibet to Mongolia, and thinks that the differences between Sanskrit and the vernaculars are dialectic variants.<sup>23</sup> It is possible, of course, that the Sanskrit form *karpūra* is the result of "back-writing" from a vernacular *kāpūr*, or *kappūr*. Dr. Laufer seems to be of the opinion, however, that the word is not Indic, and traces it to an early form, *giadbura*, or *giadbula*. This is not difficult to carry back to a Malay original, which indeed is probable because of the known Sumatran origin of the substance. The word can probably be identified with the name of the Heavenly Tree of the Bataks, *gābū*, or *gāmbū*, and their ceremonial meal, *gāmbūr*.

While probably derived from a common Malayo-Indonesian stock, the Bataks have held themselves aloof from all modern Malays, whom they regard as foreigners and distinguish from Europeans only by the color of their teeth.<sup>24</sup> The name of the heavenly tree in the Batak language is *Gambū-barus*. *Baru* is spirit. *Gambu*, with a root form *gābū*, means "to scatter", "to

<sup>21</sup> But the Arabs call it *al-hinnā*, the leaf, whence our henna, and Malay *inei*.

<sup>22</sup> Cf. Haupt, *Biblische Liebeslieder*, 127—129; also *Journal of Biblical Literature*, 35. 282.

<sup>23</sup> *Sino-Iranica*, 585—591.

<sup>24</sup> Cf. Warneck, *Tobataksch-Deutsches Wörterbuch*, 246; Anderson, *Mission to the East Coast of Sumatra in 1823*, p. 147.

hand out", or "to distribute". A derivative form *gambūr*, with variants, *hambūr*, *hampūr*, *kampūr*, is "that which is handed out" or distributed—rice at a tribal ceremony, human fate at the hands of the father-god. Literally the name of the tree may be rendered "spirit-gift". The *m* is a Malay infix, implying manner, internal movement, happening, duration, or repetition. The final *r* is a derivative form and may be a transposed infix. Among these variant Malay forms is *kāpūr*, which may mean the white crystals found in the camphor tree, or a similar substance found in a variety of bamboo, or chalk, or the lime used in betel chewing. The initial guttural varies in intensity, for in modern Malay we have *abur*, "to lavish", "to waste", or "to be prodigal in expenditure", with derivatives *ambur* and *hambur*, "strewing", "dropping down", or "scattering". Also *kapar*, "scattered about", with which *kapur* would seem to be connected. The word may have, therefore, a dual significance; material, as relating to the crystals found scattered through the trunk of the tree, and ceremonial, as connected with the heavenly Tree of Fate. All modern Malay dialects apply the word to chalk, in connection with the whitening of shoes or bleaching of fabrics, and to lime, whether for betel chewing or for whitewashing and construction. But these applications of the word seem to be relatively late and are probably due to similarity of appearance.<sup>25</sup> *Kāfūrī* in modern Persian and Hindustani means "white", obviously derived through Arabic from these Malay forms.<sup>26</sup>

The Greek forms *kaphoura* and *kamphora*, the Sanskrit *karpūra*, the later Indic *kapūr* and *kappūra*, the Syriac *kāpūr* and the Arabic *kāfūr*, are apparently all traceable to Malay variations. Infixed *m* and *r* and suffixed *r* have already been noted. In a Malay dictionary I note three variations of a single word in as many dialects—Malacca *kārsiq*, Sunda *kāsiq*, and Macassar *kāsiq*. The name of the water buffalo, which the Spaniards spell *carabao*, is a Malay word *karbau*, and its

<sup>25</sup> Cf. Winstedt, *Malay Grammar*; Joustra, *Karo-Bataksch Woordenboek*, 34, 60; Shellabear, *A Malay-English Vocabulary*, 53, 37, 114; Van der Tuuk, *Bataksch Nederduitsch Woordenboek* 88, 189; Skeat, *Etymological Dictionary of the English Language*, *sub verbo* camphor.

<sup>26</sup> As to which Prof. Haupt cites Meyer's *Großes Konversations-Lexikon*, 6th ed., 10, 524—a.

original form is *kabau*, as seen in the name of another primitive Sumatran tribe, the *Menang-kabau*.

The Chinese, who found camphor at about the same time as the Arabs and placed a very high value upon it, paid no attention to its names in Malay or Arabic and called it "dragon's brains", *lung-nau*.<sup>27</sup> This seems to be a fanciful name due to the appearance of the crystals. Various forms of this name are still found in Indonesian dialects, notably in the Philippines; and to the Japanese it is "brain-matter", *sho-no*.<sup>28</sup> The land of Chryse, the meeting point between commercial Chinese and Arabic, is the line between "brain-matter" and "hidden-matter" as commercial names for camphor.

In Arabic the word becomes *kāfūr* with a significance of "hidden" or "covered up", instead of "scattered about" or "distributed" which it seems to have in Malay. Again the meaning is so apt as to explain the ready passage of the word between the two languages. The substance does not appear in commerce until after the time of Ptolemy, who had reports from Greek, Indian and Arabian sources of voyages to Chryse and beyond. There is no reason why the Arabs should not have found it locally used and perceived its commercial value based on its mysterious divine virtues, of which they could make much with the credulous peoples with whom they dealt.

Whether its origin be Malay or Semitic, the word *kāpūr* or *kāfūr* is an unusual form in either,<sup>29</sup> and its persistence as a trade name may be due to its manifold and appropriate affinities. Is it unreasonable to suppose that the Bataks of Sumatra adopted a foreign form of the name for their Heavenly Tree which could be spoken without breaking the taboo? The Kayans of Borneo when hunting camphor, say merely "the thing that smells".<sup>30</sup> Did the Bataks of Sumatra refrain from

<sup>27</sup> Cf. Cordier's *Yule's Marco Polo*, II. 303; Adams, *Comment. Paulus Aegineta*, 3; 427-9.

<sup>28</sup> Yuhodo, *Japanese-English Pocket Dictionary*, 635. I-tsing, the Chinese Buddhist pilgrim writing in the 7<sup>th</sup> century, mentions Baros camphor; *Records of the Buddhist Religion*, Oxford 1896, Chap. 27.

<sup>29</sup> Two long vowels are unusual in a Semitic noun, but not impossible, for we have Hebrew *qītōr*, smoke; and the form is probably South-Arabian, not classical.

<sup>30</sup> Frazer, *op. cit.*, 406; cf. also Beccari, *Wanderings in the Great Forests of Borneo*, 272-5.

saying "spirit gift" and prefer "the thing that is hidden", borrowing from the seafaring traders who paid them such a fabulous price for it? Were they not, in fact, safeguarded by so doing, because their *begu* could not be supposed to understand Arabic? It is possible at least that the elaborate ceremonies connected with the gathering of camphor were not worked out until a foreign demand appeared for it which taxed the productive capacity of their forests. Similar customs are noted in the mining for tin among Malay tribes in Banka and Billiton, all being essentially propitiatory rites to obtain the benevolence of good spirits or to deceive evil spirits and thus enhance the fortunes of the tribe.<sup>31</sup> It is by no means impossible that the Arabic word was carried over into Batak as the spoken name of their Tree of Fate, and its real name successfully concealed.

The Sanskrit and Prakrit forms may have been derived from the Malacca Peninsula rather than Sumatra, direct from the Malay without Arabic influence. A northern origin for the Bataks is suggested by their own legend. The name of their port on the west coast of Sumatra, Baros, is the word for spirit, and recalls the name Langabalus, or Langabaros, an old name for the Nicobar islands—traces possibly of the southward migration of a tribal god.<sup>32</sup>

Only the Bataks could solve for us the original form from which the word camphor is derived. It is taboo, and so they would not if they could; but as their *Singamangaraja* (Malay for Sinha Maharajah, that is, lion-great-ruler) claims descent from one of the three sons of Alexander the Great, named Sri Iskander, they probably could not if they would.<sup>33</sup>

It is a fact that the Arabs, finding a world market for

<sup>31</sup> Frazer, *op. cit.* 407.

<sup>32</sup> Cf. Ferrand, *op. cit.* 25, 181; *Batakspiegel*, pub. by the Batak Institute, The Hague, *Lijst van de voornaamste aardrijkskunde namen in den Nederlandsch Indischen Archipel*, Batavia, 1906. Sulaiman, writing in 851, says "these people do not understand Arabic, nor any of the languages spoken by the merchants." (Ferrand 39.) Dimaški confuses Balus with Langabalus, which he says is the place where the camphor tree grows. (Ferrand 382—3.)

<sup>33</sup> Junghuhn, *op. cit.* Mas'ūdī, writing in 955, observes of these islands "all their kings bear the title of Maharajah." (Ferrand 99.)

frankincense greater than the supply available at the ports of the Gulf of Aden, found a nearly related tree in Sumatra which they called *luban jāwī*; that is, frankincense of Jāwa, which was the early name for Sumatra. Frankincense was another very holy tree, and the fumes from the burning of its gum brought human benefits valued at a high price, which Arab merchants found it profitable to secure. The virtues of the *luban jāwī* were asserted to be identical with those of the incense of the land of Punt sought out by the fleets of the Pharaohs. This name we, following the Portuguese, have corrupted into *benzoin*,<sup>34</sup> and Marsden, a century ago, into *benjamin*. But this tree was first found in the Batak territory of Sumatra and the Bataks still call that tree *aloban*.<sup>35</sup> Surely that is pure Arabic; and it is not unreasonable to suppose that Arab merchants seeking a more generous supply of the sacred frankincense found at the same time a tree held similarly sacred by the Bataks of Sumatra, and that they commercialized the divine virtues of its crystals just as they did the virtues of the frankincense. The market was rather different. Frankincense was treasured especially in Egypt, Palestine, Mesopotamia and the Mediterranean world; camphor in India and the East; yet the Arabs succeeded in convincing the Chinese of the virtues of frankincense, and the Persians of the virtues of camphor.

The rapid spread of Islam over the Indian Archipelago followed lines of trade established by Arab shipping long before the time of Mohammed.<sup>36</sup>

## POSTSCRIPT

After this paper was presented to the Society, additional details were received through Consul Spamer at Medan,

<sup>34</sup> Cf. Laufer, *op. cit.*; Marsden, *History of Sumatra*; Anderson, *op. cit.* 204.

<sup>35</sup> Anderson, *op. cit.* 204. Schreiber, *Die Battas in ihrem Verhältnis zu den Malaien von Sumatra*.

<sup>36</sup> Cf. Van den Berg, *Le Hadramaut et les Colonies Arabes dans l'Archipel Indien*, Batavia, 1886; also various notes to Alberuni's *India*, Sachau's edition.

including an unpublished Batak legend, which it seems worth while to append.

According to Assistant Resident Schroeder of Tartutung, Tapanuli, Sumatra, the native stories about the influence of earthquakes and insects upon camphor are founded upon fact. Camphor is found only in holes or cracks in the wood. This wood is rather firm, but splits easily, especially in a radial direction, and this in fact results from severe earthquakes. In order to transform the camphor oil into borneol crystals, an oxidation process is necessary, and the possibility for this is furnished by the presence of wood-boring insects. According to several accounts the camphor seekers can tell by a rustling sound within the tree when camphor is present, and for this sound the gnawing of the larvae is said to be responsible. The tree is felled in order to obtain the product, and the camphor veins usually run in spirals around the heart of the tree.

The consul has also obtained from Bona haju (chief of camphor expeditions) Pa Tambok of Pardomuan (Barus) an account of the legendary origin of camphor as told by the Bataks. A beautiful girl of supernatural origin named Nan Tar Tar Nan Tor Tor was married to a mortal named Si Pagedag Si Pagedog, under an agreement that the husband would never allow her to dance; but a dissolute neighbor, enamored of her beauties, beguiled the husband in an unguarded moment into sending his wife a message asking her to dance. She obeyed; but hardly had she begun when with a shriek she vanished upwards, Begu Sombaon, the evil spirit, having thus been given power over the spirit of her unborn child. She flew to a *langkukung* bush and took on the properties of camphor, but the bush was too small and was nibbled at by the cattle, and she moved to a *johar* tree. Not finding this tree an ideal abode, she then moved to a *suja* tree, the present camphor tree, where she lives to the present day. Her husband, stricken by grief and remorse, hunted her everywhere, and in a dream it was revealed to him that she lived inside the *suja* tree. He tried to find her by beating against each tree with a stick, but not finding her, he made an end of his life. His soul still torments camphor-seekers, who hear his cries and the striking of his stick against the trees. If his spirit hovers near a tree, then Nan Tar Tar Nan Tor Tor disappears and no camphor is

found. To this day the chief of the camphor seekers does not place his hut near a tree from which the cries of Si Pagedag Si Pagedog can be heard, since he knows that Nan Tar Tar Nan Tor Tor has already fled. Batak wives still wear leaves of the camphor tree in their hair to protect them from Begu Sombaon, the kidnapper of Nan Tar Tar Nan Tor Tor.

According to the Acting Controller of Barus, camphor seeking is usually undertaken by a ruler or village head, who engages a camphor seeker or Bona haju, who is a diviner. During the search this man uses opium excessively and lives strictly secluded in abnormal mental condition, living wholly in the thought of finding camphor. When the necessary funds have been advanced by the village head the Bona haju and his helpers go into the forests and build a hut in some section where camphor trees abound. Places where knocking sounds are heard in the trees are avoided because no camphor will be found there. The Bona haju then lays on the ground a leaf picked from the *pandajangan* tree, the point toward himself and the stem toward the camphor trees. On the outside of the leaf he places a complete chew of betel, to gain the favor of Nan Tar Tar Nan Tor Tor, and as many cubes of ginger root cooked with salt as there are partakers in the expedition. Three, five, seven or even twelve persons may take part. The Bona haju sits before the leaf until ants appear. The direction from which they come shows where the hunt is to take place. The color of the ants approaching the salted ginger indicates the color of the animal to be sacrificed; a red ant calls for a white buffalo, and a black ant for a black one. Each piece of ginger root laid on the leaf is named for one of the expedition, and he whose cube is first attacked by the ants becomes the leader of the chipping expedition. According as the ginger root is eaten at either end or in the middle, it tells whether camphor is to be found in the valley, on the slope or at the top of the hill. The Bona haju then returns to his hut and by the use of opium induces a dream in which there appears to him a woman who offers him rice. Her rank and the quantity of rice give further instruction as to the kind of tree to be tapped and whether it will pay. The seekers distinguish between three kinds of camphor trees having bark of different shades. The color of the face of the dream-woman determines

what trees are to be tapped. The length of her hair indicates whether or not trees having long aerial roots should be tapped. If she wears a short jacket then the trees with smooth trunks are to be tapped. If she offers much rice, the tree tapped will have much camphor. After her appearance in the dream, a white, brown and black chicken is killed in honor of Begu Sombaon, the evil spirit, upon whom the Bona haju then calls beseeching the grant of finding camphor, without which he declares he must kill himself. He then goes to the village head to inform him as to the color of the carabao to be sacrificed. Sometimes other sacrifices are called for. The spirit of the child of a ruler may be asked. In that case the child is kidnapped from some neighboring village and left alone in the woods, a prey in their belief for Begu Sombaon, the evil spirit, but in reality for the tigers. It is thought to be a good sign when a tiger, which is the riding animal of Begu Sombaon, comes to a native hut. This is a sure sign of a rich harvest of camphor, and it is only necessary to follow the beast and observe the trees on which he makes a mark with his claws. This is a proof of the favorable inclination of Begu Sombaon, the tiger acting as his messenger. Another good sign is the presence in a tree of the nest of a snake, *Celar ratarata*. This snake is said to have been appointed by Begu Sombaon as the keeper of Nan Tar Tar Nan Tor Tor, and where he is much camphor is found.

When the instructions of the Bona haju are wrong and no camphor is found, this is attributed to failure to observe the ceremonial taboos. In such cases the arts of divination begin anew, larger sacrifices are called for, and if the village head refuses to furnish them, the Bona haju as priest and mediator must give his own life as security to Begu Sombaon for fulfillment of his pledges. However, to avert this evil from himself, he may appoint one of his helpers as substitute. Since the extension of the jurisdiction of the Dutch Government over the Bataks, Sombaon, like all other spirits, is said to care less for human offerings and people are less apt to disappear.

When there has been a rich harvest of camphor, the whole neighborhood turns out with great joy and the happy return is celebrated with drums and dancing.

According to the custom of the Bataks, a Bona haju cannot



be prosecuted for debt and he is exempt from taxation, but it is his lot to die poor.

The old men disapprove modern neglect of ancient custom and claim that this has its effect in the chopping down of empty trees. "They incense the spirit Sombaon; fools they are, in company with Si Pagedag Si Pagedog."